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<110> Ono, Yuichi
Nakagawa, Yasuko
Nakatani, Tomoya

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<212> PRT

<213> Mus musculus

<400> 14

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Ser Val Cys Glu Gly Cys Gln Arg Val Ile Ser Asp Arg Phe Leu Leu
          35          40          45
Arg Leu Asn Asp Ser Phe Trp His Glu Gln Cys Val Gln Cys Ala Ser
          50          55          60
Cys Lys Glu Pro Leu Glu Thr Thr Cys Phe Tyr Arg Asp Lys Lys Leu
65          70          75          80
Tyr Cys Lys Tyr His Tyr Glu Lys Leu Phe Ala Val Lys Cys Gly Gly
          85          90          95
Cys Phe Glu Ala Ile Ala Pro Asn Glu Phe Val Met Arg Ala Gln Lys
          100          105          110
Ser Val Tyr His Leu Ser Cys Phe Cys Cys Val Cys Glu Arg Gln
          115          120          125
Leu Gln Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys
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 <213> Homo sapiens

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 35 40 45
 Arg Leu Asn Asp Ser Phe Trp His Glu Gln Cys Val Gln Cys Ala Ser
 50 55 60
 Cys Lys Glu Pro Leu Glu Thr Thr Cys Phe Tyr Arg Asp Lys Lys Leu
 65 70 75 80
 Tyr Cys Lys Tyr Asp Tyr Glu Lys Leu Phe Ala Val Lys Cys Gly Gly
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 Cys Phe Glu Ala Ile Ala Pro Asn Glu Phe Val Met Arg Ala Gln Lys
 100 105 110
 Ser Val Tyr His Leu Ser Cys Phe Cys Cys Cys Val Cys Glu Arg Gln
 115 120 125
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 Lys Gly Asp Tyr Glu Lys Glu Arg Glu Leu Leu Ser Leu Val Ser Pro
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 Ser Ala His Gly Ala Gly Lys Gly Thr Ala Glu Glu Gly Lys Asp His
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 195 200 205
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 Arg Glu Thr Leu Ala Ala Glu Thr Gly Leu Ser Val Arg Val Val Gln
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 245 250 255
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 260 265 270
 Ala Gln Thr Asn Gly Gly Gly Ser Ala Gly Met Glu Gly Ile Met Asn
 275 280 285
 Pro Tyr Thr Ala Leu Pro Thr Pro Gln Gln Leu Leu Ala Ile Glu Gln
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 Ser Val Tyr Ser Ser Asp Pro Phe Arg Gln Gly Leu Thr Pro Pro Gln
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 <212> DNA

<213> Homo sapiens

<400> 17

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<211> 133

<212> PRT

<213> Homo sapiens

<400> 18

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Gly Met Glu Gly Ile Met Asn Pro Tyr Thr Ala Leu Pro Thr Pro Gln
 35          40          45
Gln Leu Leu Ala Ile Glu Gln Ser Val Tyr Ser Ser Asp Pro Phe Arg
 50          55          60
Gln Gly Leu Thr Pro Pro Gln Met Pro Gly Asp His Met His Pro Tyr
 65          70          75          80
Gly Ala Glu Pro Leu Phe His Asp Leu Asp Ser Asp Asp Thr Ser Leu
 85          90          95
Ser Asn Leu Gly Asp Cys Phe Leu Ala Thr Ser Glu Ala Gly Pro Leu
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<211> 1119

<212> DNA

<213> Mus musculus

<400> 19

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<212> PRT

<213> Mus musculus

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      35      40      45
Asn Glu Ser Ser Trp His Glu Glu Cys Leu Gln Cys Ala Ala Cys Gln
      50      55      60
Gln Ala Leu Thr Thr Ser Cys Tyr Phe Arg Asp Arg Lys Leu Tyr Cys
      65      70      75      80
Lys Gln Asp Tyr Gln Gln Leu Phe Ala Ala Lys Cys Ser Gly Cys Met
      85      90      95
Glu Lys Ile Ala Pro Thr Glu Phe Val Met Arg Ala Leu Glu Cys Val
      100      105      110
Tyr His Leu Gly Cys Phe Cys Cys Cys Val Cys Glu Arg Gln Leu Arg
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Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys Lys Gly
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Asp Tyr Glu Lys Glu Lys Asp Leu Leu Ser Ser Val Ser Pro Asp Glu
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Ser Asp Ser Val Lys Ser Glu Asp Glu Asp Gly Asp Met Lys Pro Ala
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Lys Gly Gln Gly Ser Gln Ser Lys Gly Ser Gly Asp Asp Gly Lys Asp
      180      185      190
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      195      200      205
Arg Ala Phe Lys Ala Ser Phe Glu Val Ser Ser Lys Pro Cys Arg Lys
      210      215      220
Val Arg Glu Thr Leu Ala Ala Glu Thr Gly Leu Ser Val Arg Val Val
      225      230      235      240
Gln Val Trp Phe Gln Asn Gln Arg Ala Lys Met Lys Lys Leu Ala Arg
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Arg His Gln Gln Gln Gln Glu Gln Gln Asn Ser Gln Arg Leu Gly Gln
      260      265      270
Glu Val Leu Ser Ser Arg Met Glu Gly Met Met Ala Ser Tyr Thr Ala
      275      280      285
Leu Ala Pro Pro Gln Gln Gln Ile Val Ala Met Glu Gln Ser Pro Tyr
      290      295      300
Gly Ser Ser Asp Pro Phe Gln Gln Gly Leu Thr Pro Pro Gln Met Pro
      305      310      315      320
Gly Asn Asp Ser Ile Phe His Asp Ile Asp Ser Asp Thr Ser Leu Thr
      325      330      335
Ser Leu Ser Asp Cys Phe Leu Gly Ser Ser Asp Val Gly Ser Leu Gln
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Ala Arg Val Gly Asn Pro Ile Asp Arg Leu Tyr Ser Met Gln Ser Ser
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Tyr Phe Ala Ser
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<210> 21
<211> 1119
<212> DNA
<213> Homo sapiens

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<210> 22
<211> 372
<212> PRT
<213> Homo sapiens

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20           25           30
Cys Glu Gly Cys Gln Arg Pro Ile Ser Asp Arg Phe Leu Met Arg Val
35           40           45
Asn Glu Ser Ser Trp His Glu Cys Leu Gln Cys Ala Ala Cys Gln
50           55           60
Gln Ala Leu Thr Thr Ser Cys Tyr Phe Arg Asp Arg Lys Leu Tyr Cys
65           70           75           80
Lys Gln Asp Tyr Gln Gln Leu Phe Ala Ala Lys Cys Ser Gly Cys Met
85           90           95
Glu Lys Ile Ala Pro Thr Glu Phe Val Met Arg Ala Leu Glu Cys Val
100          105          110
Tyr His Leu Gly Cys Phe Cys Cys Cys Val Cys Glu Arg Gln Leu Arg
115          120          125
Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys Lys Gly
130          135          140
Asp Tyr Glu Lys Glu Lys Asp Leu Leu Ser Ser Val Ser Pro Asp Glu
145          150          155          160
Ser Asp Ser Val Lys Ser Glu Asp Glu Asp Gly Asp Met Lys Pro Ala
165          170          175
Lys Gly Gln Gly Ser Gln Ser Lys Gly Ser Gly Asp Asp Gly Lys Asp

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180

185

190

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			245						250					255	
Arg	His	Gln	Gln	Gln	Gln	Glu	Gln	Gln	Asn	Ser	Gln	Arg	Leu	Gly	Gln
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Glu	Val	Leu	Ser	Ser	Arg	Met	Glu	Gly	Met	Met	Ala	Ser	Tyr	Thr	Pro
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Leu	Ala	Pro	Pro	Gln	Gln	Gln	Ile	Val	Ala	Met	Glu	Gln	Ser	Pro	Tyr
	290					295					300				
Gly	Ser	Ser	Asp	Pro	Phe	Gln	Gln	Gly	Leu	Thr	Pro	Pro	Gln	Met	Pro
305				310						315				320	
Gly	Asn	Asp	Ser	Ile	Phe	His	Asp	Ile	Asp	Ser	Asp	Thr	Ser	Leu	Thr
			325						330					335	
Ser	Leu	Ser	Asp	Cys	Phe	Leu	Gly	Ser	Ser	Asp	Val	Gly	Ser	Leu	Gln
			340					345					350		
Ala	Arg	Val	Gly	Asn	Pro	Ile	Asp	Arg	Leu	Tyr	Ser	Met	Gln	Ser	Ser
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<210> 23

<211> 2247

<212> DNA

<213> Mus musculus

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<211> 598

<212> PRT

<213> Mus musculus

<400> 24

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Asp Asn Tyr Ser Thr Gly Tyr Asp Val Lys Pro Pro Cys Leu Tyr Gln
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<210> 25

<211> 3447

<212> DNA

<213> Homo sapiens

<400> 25

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<210> 26
<211> 598
<212> PRT
<213> Homo sapiens

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35 40 45
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50 55 60
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65 70 75 80
Met Pro Leu Ser Gly Gln Gln Ser Ser Ile Lys Val Glu Asp Ile Gln
85 90 95
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100 105 110
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Thr Pro Thr Thr Pro Gly Phe Gln Val Gln His Ser Pro Met Trp Asp
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			260					265					270		
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		275					280					285			
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				325					330					335	
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			340					345					350		
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Lys	Leu	Glu	Asp	Leu	Val	Pro	Pro	Pro	Ala	Ile	Ile	Asp	Lys	Leu	Phe
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 <212> DNA
 <213> Mus musculus

<400> 27

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<210> 28
 <211> 401
 <212> PRT
 <213> Mus musculus

<400> 28

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Pro Gly Ala Ser Gly Ser Ser Gly Ser Asp Gly Asp Ser Val Pro Val
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Ser Pro Gln Pro Ala Pro Pro Ser Pro Pro Ala Ala Pro Cys Leu Pro
 50          55          60
Pro Leu Ala His His Pro His Leu Pro Pro His Pro Pro Pro Pro

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Asn	Ile	Leu	Arg	Pro	Asp	Phe	Gly	Cys	Lys	Lys	Glu	Gln	Pro	Leu	Pro
	115						120					125			
Gln	Leu	Leu	Val	Ala	Ser	Ala	Ala	Ala	Gly	Gly	Gly	Ala	Ala	Ala	Gly
	130					135						140			
Gly	Gly	Ser	Arg	Val	Glu	Arg	Asp	Arg	Gly	Gln	Thr	Gly	Ala	Gly	Arg
145					150					155					160
Asp	Pro	Val	His	Ser	Leu	Gly	Thr	Arg	Ala	Ser	Gly	Ala	Ala	Ser	Leu
				165					170					175	
Leu	Cys	Ala	Pro	Asp	Ala	Asn	Cys	Gly	Pro	Pro	Asp	Gly	Ser	Gln	Pro
			180					185					190		
Ala	Thr	Ala	Val	Gly	Ala	Gly	Ala	Ser	Lys	Ala	Gly	Asn	Pro	Ala	Ala
	195						200					205			
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Val	Ala	Ala	Ala
	210					215						220			
Ala	Ala	Ala	Ala	Ser	Lys	Pro	Ser	Asp	Ser	Gly	Gly	Gly	Ser	Gly	Gly
225					230					235					240
Asn	Ala	Gly	Ser	Pro	Gly	Ala	Gln	Gly	Ala	Lys	Phe	Pro	Glu	His	Asn
				245				250						255	
Pro	Ala	Ile	Leu	Leu	Met	Gly	Ser	Ala	Asn	Gly	Gly	Pro	Val	Val	Lys
			260					265					270		
Thr	Asp	Ser	Gln	Gln	Pro	Leu	Val	Trp	Pro	Ala	Trp	Val	Tyr	Cys	Thr
	275						280					285			
Arg	Tyr	Ser	Asp	Arg	Pro	Ser	Ser	Gly	Pro	Arg	Thr	Arg	Lys	Leu	Lys
	290					295					300				
Lys	Lys	Lys	Asn	Glu	Lys	Glu	Asp	Lys	Arg	Pro	Arg	Thr	Ala	Phe	Thr
305					310					315					320
Ala	Glu	Gln	Leu	Gln	Arg	Leu	Lys	Ala	Glu	Phe	Gln	Ala	Asn	Arg	Tyr
				325					330					335	
Ile	Thr	Glu	Gln	Arg	Arg	Gln	Thr	Leu	Ala	Gln	Glu	Leu	Ser	Leu	Asn
			340					345					350		
Glu	Ser	Gln	Ile	Lys	Ile	Trp	Phe	Gln	Asn	Lys	Arg	Ala	Lys	Ile	Lys
		355					360					365			
Lys	Ala	Thr	Gly	Ile	Lys	Asn	Gly	Leu	Ala	Leu	His	Leu	Met	Ala	Gln
	370					375					380				
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385					390					395					400
Glu															

<210> 29
 <211> 2943
 <212> DNA
 <213> Homo sapiens

<400> 29
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 cctgaaggag ggggaggac gcgggtgcgg cgcggtggg ggagggcgga cccgacgcac 180
 agggccagcg ccgaggcgcc ccctctccgc cagcggttga cgccccgga ttatttatcc 240
 gcaaagtccc gcgcgcgcc attgggcccga ggcccagtg tcagcgcgag tcccggtcgc 300
 ccattggctc cgcacacgtg cggccctgac tcacgtgctt ccggtttgaa ggcaaaaagt 360
 gtgcctgggt gattttttt ttaagcgaga gagtttgtgc aaagatccga gctgtcagag 420
 atttgaaaaa aaaaaaaaaa acaaaaaaaaa aaaaaccagc ccggcgctgg cggagacgcg 480
 ctctccctgc aaaaaaagca aaggcgatta aaggcgctgc cagcctcacg ctctgggcac 540
 agctgagcgt gacactcggg gaagtcaaac ccctcactac tgcctaggaa gatggctaga 600

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ctttaaatac tatttttttc cctttaagaa aaaaattatt ggagcttttt ttcttgcttt 660
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taaatcaaat cattgaatct ggttgagagaa agaaaaaaga aatagccaag tgtctccata 780
tctggatgct tacaattag agagggagag acagcgagat ctatctgcta gataagaacg 840
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caccaggtc caggacaaa agcagagcga gtagccgcca caggccgggg ccgcgcccgc 2220
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gtttctgcccc cctttcgttt tccggagact tgttgagaaa tacgaccca cagactgcga 2880
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aaa 2943

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<210> 30

<211> 392

<212> PRT

<213> Homo sapiens

<400> 30

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Met Glu Glu Gln Gln Pro Glu Pro Lys Ser Gln Arg Asp Ser Ala Leu
1          5          10          15
Gly Gly Ala Ala Ala Ala Thr Pro Gly Gly Leu Ser Leu Ser Leu Ser
20          25          30
Pro Gly Ala Ser Gly Ser Ser Gly Ser Gly Ser Asp Gly Asp Ser Val
35          40          45
Pro Val Ser Pro Gln Pro Ala Pro Pro Ser Pro Pro Ala Ala Pro Cys
50          55          60
Leu Pro Pro Leu Ala His His Pro His Leu Pro Pro His Pro Pro Pro
65          70          75          80
Pro Pro Pro Gln His Leu Ala Ala Pro Ala His Gln Pro Gln Pro Ala
85          90          95
Ala Gln Leu His Arg Thr Thr Asn Phe Phe Ile Asp Asn Ile Leu Arg
100          105          110

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Pro	Asp	Phe	Gly	Cys	Lys	Lys	Glu	Gln	Pro	Pro	Pro	Gln	Leu	Leu	Val
		115					120					125			
Ala	Ala	Ala	Ala	Arg	Gly	Gly	Ala	Gly	Gly	Gly	Gly	Arg	Val	Glu	Arg
		130				135					140				
Asp	Arg	Gly	Gln	Thr	Ala	Ala	Gly	Arg	Asp	Pro	Val	His	Pro	Leu	Gly
145					150				155					160	
Thr	Arg	Ala	Pro	Gly	Ala	Ala	Ser	Leu	Leu	Cys	Ala	Pro	Asp	Ala	Asn
				165				170						175	
Cys	Gly	Pro	Pro	Asp	Gly	Ser	Gln	Pro	Ala	Ala	Ala	Gly	Ala	Gly	Ala
		180						185					190		
Ser	Lys	Ala	Gly	Asn	Pro	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala
		195				200					205				
Val	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Lys	Pro	Ser	Asp	Thr	Gly
		210				215					220				
Gly	Gly	Gly	Ser	Gly	Gly	Gly	Ala	Gly	Ser	Pro	Gly	Ala	Gln	Gly	Thr
225					230					235				240	
Lys	Tyr	Pro	Glu	His	Gly	Asn	Pro	Ala	Ile	Leu	Leu	Met	Gly	Ser	Ala
				245				250						255	
Asn	Gly	Gly	Pro	Val	Val	Lys	Thr	Asp	Ser	Gln	Gln	Pro	Leu	Val	Trp
			260					265					270		
Pro	Ala	Trp	Val	Tyr	Cys	Thr	Arg	Tyr	Ser	Asp	Arg	Pro	Ser	Ser	Gly
		275					280					285			
Pro	Arg	Thr	Arg	Lys	Leu	Lys	Lys	Lys	Lys	Asn	Glu	Lys	Glu	Asp	Lys
		290				295					300				
Arg	Pro	Arg	Thr	Ala	Phe	Thr	Ala	Glu	Gln	Leu	Gln	Arg	Leu	Lys	Ala
305					310					315				320	
Glu	Phe	Gln	Ala	Asn	Arg	Tyr	Ile	Thr	Glu	Gln	Arg	Arg	Gln	Thr	Leu
				325					330					335	
Ala	Gln	Glu	Leu	Ser	Leu	Asn	Glu	Ser	Gln	Ile	Lys	Ile	Trp	Phe	Gln
			340					345					350		
Asn	Lys	Arg	Ala	Lys	Ile	Lys	Lys	Ala	Thr	Gly	Ile	Lys	Asn	Gly	Leu
		355				360					365				
Ala	Leu	His	Leu	Met	Ala	Gln	Gly	Leu	Tyr	Asn	His	Ser	Thr	Thr	Thr
		370				375					380				
Val	Gln	Asp	Lys	Asp	Glu	Ser	Glu								
385					390										

<210> 31
 <211> 1392
 <212> DNA
 <213> Mus musculus

<400> 31
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 tagacctccc tccatggagt ttgggctgct tggtaggca gaggcgcgaa gccctgcgct 180
 gtcgttatcg gacgcaggca ctccacaccc tccgcttcca gaacatggct gcaaggggca 240
 ggagcacagt gactcggaga aggcctcggc ctcaactgcc gggggctccc ccgaggacgg 300
 ctctctgaag aagaagcagc ggcggcagcg cagcacttc accagccagc agctgcagga 360
 gctggaggcc accttccaga ggaatcgcta ccctgacatg agcaccgcg aagagatcgc 420
 ggtgtggacc aacctcactg aggccgcgct gcggggtgtg ttcaagaacc ggcgcgccaa 480
 gtggcggaag cgggagcgca gccagcaggg ggagctgtgc aaaggtggct tcgcagcccc 540
 gctcgggggc ctggtgccac cctacgagga ggtgtaccgg ggctactcgt acggcaactg 600
 gccgcccagg gctctcgccc cgccgctcgc cgccaagacc ttcccgttcg ccttcaactc 660
 ggtcaacgtg gggcctctg cttcacagcg tgtattctca ccgcccagct ccatcgccgc 720
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 cggggaaccc tgtaactcga gcctggctag cctgcggctc aaagccaagc agcacgcctc 960
 tttagctat cccgccgtgc ccgggcccgc gccggccgct aaccttagcc cctgccagta 1020

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cgccgtggaa cggccggtgt gagccgcagg tctgtggatc catccccgag ggcggggcag 1080
taattcacag cctctccgga caggggtcgc ctagactggc ttgccctcgt cccaggggtct 1140
gaaaggggtg ccagagcacc cgggaagagg ccgcgggctt cgaagagggc cttttccctc 1200
gcagcccccg agcgggtggtc tgacccttat gcggagaccg cggccctagg actaaggcca 1260
ggaacagggg ccagctcccc cagggccaat tcacccttgg ctcaccccg cttctccaga 1320
ctccccctat cccattttca aagatcaatg aaataaacgt gcgcggactg tcaaaaaaaaa 1380
aaaaaaaaaa aa 1392

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<210> 32
 <211> 302
 <212> PRT
 <213> Mus musculus

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<400> 32
Met Glu Phe Gly Leu Leu Gly Glu Ala Glu Ala Arg Ser Pro Ala Leu
 1          5          10          15
Ser Leu Ser Asp Ala Gly Thr Pro His Pro Pro Leu Pro Glu His Gly
 20          25          30
Cys Lys Gly Gln Glu His Ser Asp Ser Glu Lys Ala Ser Ala Ser Leu
 35          40          45
Pro Gly Gly Ser Pro Glu Asp Gly Ser Leu Lys Lys Lys Gln Arg Arg
 50          55          60
Gln Arg Thr His Phe Thr Ser Gln Gln Leu Gln Glu Leu Glu Ala Thr
 65          70          75          80
Phe Gln Arg Asn Arg Tyr Pro Asp Met Ser Thr Arg Glu Glu Ile Ala
 85          90          95
Val Trp Thr Asn Leu Thr Glu Ala Arg Val Arg Val Trp Phe Lys Asn
100          105          110
Arg Arg Ala Lys Trp Arg Lys Arg Glu Arg Ser Gln Gln Ala Glu Leu
115          120          125
Cys Lys Gly Gly Phe Ala Ala Pro Leu Gly Gly Leu Val Pro Pro Tyr
130          135          140
Glu Glu Val Tyr Pro Gly Tyr Ser Tyr Gly Asn Trp Pro Pro Lys Ala
145          150          155          160
Leu Ala Pro Pro Leu Ala Ala Lys Thr Phe Pro Phe Ala Phe Asn Ser
165          170          175
Val Asn Val Gly Pro Leu Ala Ser Gln Pro Val Phe Ser Pro Pro Ser
180          185          190
Ser Ile Ala Ala Ser Met Val Pro Ser Ala Ala Ala Ala Pro Gly Thr
195          200          205
Val Pro Gly Pro Gly Ala Leu Gln Gly Leu Gly Gly Ala Pro Pro Gly
210          215          220
Leu Ala Pro Ala Ala Val Ser Ser Gly Ala Val Ser Cys Pro Tyr Ala
225          230          235          240
Ser Ala Ala Ala Ala Ala Ala Ala Ala Ala Ser Ser Pro Tyr Val Tyr
245          250          255
Arg Asp Pro Cys Asn Ser Ser Leu Ala Ser Leu Arg Leu Lys Ala Lys
260          265          270
Gln His Ala Ser Phe Ser Tyr Pro Ala Val Pro Gly Pro Pro Pro Ala
275          280          285
Ala Asn Leu Ser Pro Cys Gln Tyr Ala Val Glu Arg Pro Val
290          295          300

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<210> 33
 <211> 1407
 <212> DNA
 <213> Homo sapiens

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<400> 33
ggagcgcccc agcggagagg cggcccggga gcaggggggc ggccccact ccggccgggt 60

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tctgcctgtt gcaggacgca ctagccctcc ctccatggag ttcggcctgc tcagcgaggc 180
agaggccccg agccctgccc tgctcgctgtc agacgtggc actccgcacc cccagctccc 240
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cggcggtccc ccagaggacg gttcgctgaa aaagaagcag cggcggcagc gcacgcactt 360
caccagccag cagctacagg agctagaggc gaccttccag aggaaccgct accccgacat 420
gagcacgcgc gaggagatcg ccgtgtggac caacctcacc gagggccgcg tgcgggtgtg 480
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ggactgtcaa aaaaaaaaa aaaaaaa 1407

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<210> 34
 <211> 302
 <212> PRT
 <213> Homo sapiens

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<400> 34
Met Glu Phe Gly Leu Leu Ser Glu Ala Glu Ala Arg Ser Pro Ala Leu
 1          5          10          15
Ser Leu Ser Asp Ala Gly Thr Pro His Pro Gln Leu Pro Glu His Gly
 20          25          30
Cys Lys Gly Gln Glu His Ser Asp Ser Glu Lys Ala Ser Ala Ser Leu
 35          40          45
Pro Gly Gly Ser Pro Glu Asp Gly Ser Leu Lys Lys Lys Gln Arg Arg
 50          55          60
Gln Arg Thr His Phe Thr Ser Gln Gln Leu Gln Glu Leu Glu Ala Thr
 65          70          75          80
Phe Gln Arg Asn Arg Tyr Pro Asp Met Ser Thr Arg Glu Glu Ile Ala
 85          90          95
Val Trp Thr Asn Leu Thr Glu Ala Arg Val Arg Val Trp Phe Lys Asn
100          105          110
Arg Arg Ala Lys Trp Arg Lys Arg Glu Arg Ser Gln Gln Ala Glu Leu
115          120          125
Cys Lys Gly Ser Phe Ala Ala Pro Leu Gly Gly Leu Val Pro Pro Tyr
130          135          140
Glu Glu Val Tyr Pro Gly Tyr Ser Tyr Gly Asn Trp Pro Pro Lys Ala
145          150          155          160
Leu Ala Pro Pro Leu Ala Ala Lys Thr Phe Pro Phe Ala Phe Asn Ser
165          170          175
Val Asn Val Gly Pro Leu Ala Ser Gln Pro Val Phe Ser Pro Pro Ser
180          185          190
Ser Ile Ala Ala Ser Met Val Pro Ser Ala Ala Ala Ala Pro Gly Thr
195          200          205
Val Pro Gly Pro Gly Ala Leu Gln Gly Leu Gly Gly Gly Pro Pro Gly
210          215          220
Leu Ala Pro Ala Ala Val Ser Ser Gly Ala Val Ser Cys Pro Tyr Ala
225          230          235          240
Ser Ala Ala Ala Ala Ala Ala Ala Ala Ala Ser Ser Pro Tyr Val Tyr

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				245						250					255				
Arg	Asp	Pro	Cys	Asn	Ser	Ser	Leu	Ala	Ser	Leu	Arg	Leu	Lys	Ala	Lys				
			260					265					270						
Gln	His	Ala	Ser	Phe	Ser	Tyr	Pro	Ala	Val	His	Gly	Pro	Pro	Pro	Ala				
		275					280					285							
Ala	Asn	Leu	Ser	Pro	Cys	Gln	Tyr	Ala	Val	Glu	Arg	Pro	Val						
	290					295					300								

<210> 35
 <211> 1757
 <212> DNA
 <213> Mus musculus

<400> 35

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agagtctcat	cgaggatgcc	cgcaaggagc	gggaggcagc	agcagctgca	gcagcggctg	180
cggtagcctc	cgcggaacct	gggaacccat	tggaggctgt	ggtattcgag	gagagggatg	240
gaaatgctgt	tctcaacctg	ctcttctcct	tgagggggtac	aaaaccctcc	tcactgtctc	300
gggctttgaa	agtgtttgag	acatttgaag	ccaaaatcca	ccacttagag	accgggcctg	360
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gtggcgacct	ggctgccctc	ctcagttctg	tgcgtcgggt	gtctgacgat	gtgcgcagtg	480
ccagagagga	caaggttccc	tggttcccaa	ggaaagtgtc	agagttggat	aagtgtcacc	540
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caattcccca	cgtggaatac	acaaaggagg	aaattgctac	ctggaaggag	gtatacgcca	720
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cttcagatga	agaaattgaa	aaactctcca	cgggtgtactg	gttcactgtg	gagtttgggc	1140
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aaatgcatag	ggtaccaccc	acaggtgcca	ggggcctttc	ccaaagtcc	cagcccccttc	1560
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<210> 36
 <211> 498
 <212> PRT
 <213> Mus musculus

<400> 36

Met	Pro	Thr	Pro	Ser	Ala	Ser	Ser	Pro	Gln	Pro	Lys	Gly	Phe	Arg	Arg
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Ala	Val	Ser	Glu	Gln	Asp	Thr	Lys	Gln	Ala	Glu	Ala	Val	Thr	Ser	Pro
			20					25					30		
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His	Leu	Glu	Thr	Arg	Pro	Ala	Gln	Arg	Pro	Leu	Ala	Gly	Ser	Pro
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Cys	His	His	Leu	Val	Thr	Lys	Phe	Asp	Pro	Asp	Leu	Asp	Leu	Asp
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			405					410						Asp
Thr	Ala	Ala	Val	Gln	Pro	Tyr	Gln	Asp	Gln	Thr	Tyr	Gln	Pro	Val
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Phe	Val	Ser	Glu	Ser	Phe	Ser	Asp	Ala	Lys	Asp	Lys	Leu	Arg	Asn
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Ala	Ser	Arg	Ile	Gln	Arg	Pro	Phe	Ser	Val	Lys	Phe	Asp	Pro	Tyr
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<210> 37
 <211> 1921
 <212> DNA
 <213> Homo sapiens

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1921

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<210> 38
<211> 528
<212> PRT
<213> Homo sapiens

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35     40     45
Thr Ala Ala Pro Ala Ala Ser Tyr Thr Pro Thr Pro Arg Ser Pro Arg
50     55     60
Phe Ile Gly Arg Arg Gln Ser Leu Ile Glu Asp Ala Arg Lys Glu Arg
65     70     75     80
Glu Ala Ala Val Ala Ala Ala Ala Ala Val Pro Ser Glu Pro Gly
85     90     95
Asp Pro Leu Glu Ala Val Ala Phe Glu Glu Lys Glu Gly Lys Ala Val
100    105    110
Leu Asn Leu Leu Phe Ser Pro Arg Ala Thr Lys Pro Ser Ala Leu Ser
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Arg Ala Val Lys Val Phe Glu Thr Phe Glu Ala Lys Ile His His Leu
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Glu Thr Arg Pro Ala Gln Arg Pro Arg Ala Gly Gly Pro His Leu Glu

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His	Leu	Val	Thr	Lys	Phe	Asp	Pro	Asp	Leu	Asp	Leu	Asp	His	Pro
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Phe	Ser	Asp	Gln	Val	Tyr	Arg	Gln	Arg	Arg	Lys	Leu	Ile	Ala	Glu
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Asp	Val	Ser	Arg	Phe	Leu	Lys	Glu	Arg	Thr	Gly	Phe	Gln	Leu	Arg
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Val	Ala	Gly	Leu	Leu	Ser	Ala	Arg	Asp	Phe	Leu	Ala	Ser	Leu	Ala
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Ser	Trp	Phe	Thr	Val	Glu	Phe	Gly	Leu	Cys	Lys	Gln	Asn	Gly	Glu
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Cys	Leu	Ser	Glu	Glu	Pro	Glu	Ile	Arg	Ala	Phe	Asp	Pro	Glu	Ala
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Ala	Val	Gln	Pro	Tyr	Gln	Asp	Gln	Thr	Tyr	Gln	Ser	Val	Tyr	Phe
	450				455					460				Val
Ser	Glu	Ser	Phe	Ser	Asp	Ala	Lys	Asp	Lys	Leu	Arg	Ser	Tyr	Ala
465				470					475					480
Arg	Ile	Gln	Arg	Pro	Phe	Ser	Val	Lys	Phe	Asp	Pro	Tyr	Thr	Leu
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Ile	Asp	Val	Leu	Asp	Ser	Pro	Gln	Ala	Val	Arg	Arg	Ser	Leu	Glu
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 <211> 3393
 <212> DNA
 <213> Mus musculus

<400> 39
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<211> 619

<212> PRT

<213> Mus musculus

<400> 40

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 <212> DNA
 <213> Homo sapiens

<400> 41

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<210> 42

<211> 620

<212> PRT

<213> Homo sapiens

<400> 42

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35     40     45
Asn Pro Arg Gln Ser Pro Val Glu Ala Gln Asp Arg Glu Thr Trp Gly
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Lys Lys Ile Asp Phe Leu Ser Val Ile Gly Phe Ala Val Asp Leu
65     70     75     80
Ala Asn Val Trp Arg Phe Pro Tyr Leu Cys Tyr Lys Asn Gly Gly Gly
85     90     95
Ala Phe Leu Val Pro Tyr Leu Leu Phe Met Val Ile Ala Gly Met Pro
100    105    110
Leu Phe Tyr Met Glu Leu Ala Leu Gly Gln Phe Asn Arg Glu Gly Ala
115    120    125
Ala Gly Val Trp Lys Ile Cys Pro Ile Leu Lys Gly Val Gly Phe Thr
130    135    140
Val Ile Leu Ile Ser Leu Tyr Val Gly Phe Phe Tyr Asn Val Ile Ile
145    150    155    160
Ala Trp Ala Leu His Tyr Leu Phe Ser Ser Phe Thr Thr Glu Leu Pro
165    170    175
Trp Ile His Cys Asn Asn Ser Trp Asn Ser Pro Asn Cys Ser Asp Ala
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His Pro Gly Asp Ser Ser Gly Asp Ser Ser Gly Leu Asn Asp Thr Phe
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Gly Thr Thr Pro Ala Ala Glu Tyr Phe Glu Arg Gly Val Leu His Leu

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210		215		220
His Gln Ser His Gly Ile Asp Asp Leu Gly Pro Pro Arg Trp Gln Leu				
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Thr Ala Cys Leu Val Leu Val Ile Val Leu Leu Tyr Phe Ser Leu Trp				
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Lys Gly Val Lys Thr Ser Gly Lys Val Val Trp Ile Thr Ala Thr Met				
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Pro Tyr Val Val Leu Thr Ala Leu Leu Leu Arg Gly Val Thr Leu Pro				
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Gly Ala Ile Asp Gly Ile Arg Ala Tyr Leu Ser Val Asp Phe Tyr Arg				
	290		295	300
Leu Cys Glu Ala Ser Val Trp Ile Asp Ala Ala Thr Gln Val Cys Phe				
305		310		315
Ser Leu Gly Val Gly Phe Gly Val Leu Ile Ala Phe Ser Ser Tyr Asn				
	325		330	335
Lys Phe Thr Asn Asn Cys Tyr Arg Asp Ala Ile Val Thr Thr Ser Ile				
	340		345	350
Asn Ser Leu Thr Ser Phe Ser Ser Gly Phe Val Val Phe Ser Phe Leu				
	355		360	365
Gly Tyr Met Ala Gln Lys His Ser Val Pro Ile Gly Asp Val Ala Lys				
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Asp Gly Pro Gly Leu Ile Phe Ile Ile Tyr Pro Glu Ala Ile Ala Thr				
385		390		395
Leu Pro Leu Ser Ser Ala Trp Ala Val Val Phe Phe Ile Met Leu Leu				
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Thr Leu Gly Ile Asp Ser Ala Met Gly Gly Met Glu Ser Val Ile Thr				
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Gly Leu Ile Asp Glu Phe Gln Leu Leu His Arg His Arg Glu Leu Phe				
	435		440	445
Thr Leu Phe Ile Val Leu Ala Thr Phe Leu Leu Ser Leu Phe Cys Val				
	450		455	460
Thr Asn Gly Gly Ile Tyr Val Phe Thr Leu Leu Asp His Phe Ala Ala				
465		470		475
Gly Thr Ser Ile Leu Phe Gly Val Leu Ile Glu Ala Ile Gly Val Ala				
	485		490	495
Trp Phe Tyr Gly Val Gly Gln Phe Ser Asp Asp Ile Gln Gln Met Thr				
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Gly Gln Arg Pro Ser Leu Tyr Trp Arg Leu Cys Trp Lys Leu Val Ser				
	515		520	525
Pro Cys Phe Leu Leu Phe Val Val Val Val Ser Ile Val Thr Phe Arg				
	530		535	540
Pro Pro His Tyr Gly Ala Tyr Ile Phe Pro Asp Trp Ala Asn Ala Leu				
545		550		555
Gly Trp Val Ile Ala Thr Ser Ser Met Ala Met Val Pro Ile Tyr Ala				
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Ala Tyr Lys Phe Cys Ser Leu Pro Gly Ser Phe Arg Glu Lys Leu Ala				
	580		585	590
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<211> 2038

<212> DNA

<213> Mus musculus

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<210> 44

<211> 501

<212> PRT

<213> Mus musculus

<400> 44

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 20          25          30
Val Ser Gly Lys Lys Phe Pro Val Leu Asn Pro Ala Thr Glu Glu Val
 35          40          45
Ile Cys His Val Glu Glu Gly Asp Lys Ala Asp Val Asp Lys Ala Val
 50          55          60
Lys Ala Ala Arg Gln Ala Phe Gln Ile Gly Ser Pro Trp Arg Thr Met
 65          70          75          80
Asp Ala Ser Glu Arg Gly Cys Leu Leu Asn Lys Leu Ala Asp Leu Met
 85          90          95
Glu Arg Asp Arg Leu Leu Leu Ala Thr Met Glu Ala Leu Asn Gly Gly
100          105          110
Lys Val Phe Ala Asn Ala Tyr Leu Ser Asp Leu Gly Gly Cys Ile Lys
115          120          125
Ala Leu Lys Tyr Cys Ala Gly Trp Ala Asp Lys Ile His Gly Gln Thr
130          135          140
Ile Pro Ser Asp Gly Asp Ile Phe Thr Tyr Thr Arg Arg Glu Pro Ile
145          150          155          160
Gly Val Cys Gly Gln Ile Ile Pro Trp Asn Phe Pro Met Leu Met Phe
165          170          175

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Lys	Val	Ala	Phe	Thr	Gly	Ser	Thr	Gln	Val	Gly	Lys	Leu	Ile	Lys	Glu
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Lys	Ser	Pro	Cys	Ile	Val	Phe	Ala	Asp	Ala	Asp	Leu	Asp	Ile	Ala	Val
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Glu	Phe	Ala	His	His	Gly	Val	Phe	Tyr	His	Gln	Gly	Gln	Cys	Cys	Val
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Ala	Ala	Ser	Arg	Ile	Phe	Val	Glu	Glu	Ser	Val	Tyr	Asp	Glu	Phe	Val
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Lys	Arg	Ser	Val	Glu	Arg	Ala	Lys	Lys	Tyr	Val	Leu	Gly	Asn	Pro	Leu
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Thr	Val	Phe	Ser	Asn	Val	Thr	Asp	Glu	Met	Arg	Ile	Ala	Lys	Glu	Glu
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Ile	Phe	Gly	Pro	Val	Gln	Gln	Ile	Met	Lys	Phe	Lys	Ser	Val	Asp	Asp
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Val	Ile	Lys	Arg	Ala	Asn	Asn	Thr	Thr	Tyr	Gly	Leu	Ala	Ala	Gly	Leu
			420					425					430		
Phe	Thr	Lys	Asp	Leu	Asp	Lys	Ala	Ile	Thr	Val	Ser	Ser	Ala	Leu	Gln
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Pro	Phe	Gly	Gly	Phe	Lys	Met	Ser	Gly	Asn	Gly	Arg	Glu	Leu	Gly	Glu
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His	Gly	Leu	Tyr	Glu	Tyr	Thr	Glu	Leu	Lys	Thr	Val	Ala	Met	Lys	Ile
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 <212> DNA
 <213> Homo sapiens

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<210> 46

<211> 501

<212> PRT

<213> Homo sapiens

<400> 46

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Val Ser Gly Lys Lys Phe Pro Val Phe Asn Pro Ala Thr Glu Glu Glu
35      40      45
Leu Cys Gln Val Glu Glu Gly Asp Lys Glu Asp Val Asp Lys Ala Val
50      55      60
Lys Ala Ala Arg Gln Ala Phe Gln Ile Gly Ser Pro Trp Arg Thr Met
65      70      75      80
Asp Ala Ser Glu Arg Gly Arg Leu Leu Tyr Lys Leu Ala Asp Leu Ile
85      90      95
Glu Arg Asp Arg Leu Leu Leu Ala Thr Met Glu Ser Met Asn Gly Gly
100     105     110
Lys Leu Tyr Ser Asn Ala Tyr Leu Asn Asp Leu Ala Gly Cys Ile Lys
115     120     125
Thr Leu Arg Tyr Cys Ala Gly Trp Ala Asp Lys Ile Gln Gly Arg Thr
130     135     140
Ile Pro Ile Asp Gly Asn Phe Phe Thr Tyr Thr Arg His Glu Pro Ile
145     150     155     160
Gly Val Cys Gly Gln Ile Ile Pro Trp Asn Phe Pro Leu Val Met Leu
165     170     175
Ile Trp Lys Ile Gly Pro Ala Leu Ser Cys Gly Asn Thr Val Val Val
180     185     190
Lys Pro Ala Glu Gln Thr Pro Leu Thr Ala Leu His Val Ala Ser Leu
195     200     205
Ile Lys Glu Ala Gly Phe Pro Pro Gly Val Val Asn Ile Val Pro Gly
210     215     220
Tyr Gly Pro Thr Ala Gly Ala Ala Ile Ser Ser His Met Asp Ile Asp

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<130> E1-A0307P

<150> JP 2003-395493

<151> 2003-11-26

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<170> PatentIn version 3.3

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<213> Artificial

<220>

<223> adapter for cDNA amplification

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26

<210> 2

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<213> Artificial

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<223> adapter for cDNA amplification

<400> 2

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12

<210> 3

<211> 26

<212> DNA

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<223> adapter for cDNA amplification

<400> 3

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26

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<212> DNA

<213> Artificial

<220>

<223> adapter for cDNA amplification

<400> 4

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12

<210> 5

<211> 26

<212> DNA

<213> Artificial

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<223> adapter for cDNA amplification

<400> 5

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<210> 6

<211> 12

<212> DNA

<213> Artificial

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<223> adapter for cDNA amplification

<400> 6

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<210> 7

<211> 26

<212> DNA

<213> Artificial

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<223> adapter for cDNA amplification

<400> 7

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<210> 8

<211> 12

<212> DNA

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12

<210> 9

<211> 26

<212> DNA

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26

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<211> 3338

<212> DNA

<213> Mus musculus

<400> 13

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<210> 14

<211> 382

<212> PRT

<213> Mus musculus

<400> 14

Met Leu Asp Gly Leu Lys Met Glu Glu Asn Phe Gln Ser Ala Ile Glu

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15

Thr Ser Ala Ser Phe Ser Ser Leu Leu Gly Arg Ala Val Ser Pro Lys
 20 25 30

Ser Val Cys Glu Gly Cys Gln Arg Val Ile Ser Asp Arg Phe Leu Leu
 35 40 45

Arg Leu Asn Asp Ser Phe Trp His Glu Gln Cys Val Gln Cys Ala Ser
 50 55 60

Cys Lys Glu Pro Leu Glu Thr Thr Cys Phe Tyr Arg Asp Lys Lys Leu
 65 70 75 80

Tyr Cys Lys Tyr His Tyr Glu Lys Leu Phe Ala Val Lys Cys Gly Gly
 85 90 95

Cys Phe Glu Ala Ile Ala Pro Asn Glu Phe Val Met Arg Ala Gln Lys
 100 105 110

Ser Val Tyr His Leu Ser Cys Phe Cys Cys Cys Val Cys Glu Arg Gln
 115 120 125

Leu Gln Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys
 130 135 140

Lys Gly Asp Tyr Glu Lys Glu Arg Glu Leu Leu Ser Leu Val Ser Pro
 145 150 155 160

Ala Ala Ser Asp Ser Gly Lys Ser Asp Asp Glu Glu Ser Leu Cys Lys
 165 170 175

Ser Ala His Gly Ala Gly Lys Gly Ala Ser Glu Asp Gly Lys Asp His
 180 185 190

Lys Arg Pro Lys Arg Pro Arg Thr Ile Leu Thr Thr Gln Gln Arg Arg
 195 200 205

Ala Phe Lys Ala Ser Phe Glu Val Ser Ser Lys Pro Cys Arg Lys Val
 210 215 220

Arg Glu Thr Leu Ala Ala Glu Thr Gly Leu Ser Val Arg Val Val Gln
 225 230 235 240

Val Trp Phe Gln Asn Gln Arg Ala Lys Met Lys Lys Leu Ala Arg Arg
 245 250 255

Gln Gln Gln Gln Gln Gln Asp Gln Gln Asn Thr Gln Arg Leu Thr Ser
 260 265 270

Ala Gln Thr Asn Gly Ser Gly Asn Ala Gly Met Glu Gly Ile Met Asn
 275 280 285

Pro Tyr Thr Thr Leu Pro Thr Pro Gln Gln Leu Leu Ala Ile Glu Gln
 290 295 300

Ser Val Tyr Asn Ser Asp Pro Phe Arg Gln Gly Leu Thr Pro Pro Gln
 305 310 315 320

Met Pro Gly Asp His Met His Pro Tyr Gly Ala Glu Pro Leu Phe His
 325 330 335

Asp Leu Asp Ser Asp Asp Thr Ser Leu Ser Asn Leu Gly Asp Cys Phe
 340 345 350

Leu Ala Thr Ser Glu Ala Gly Pro Leu Gln Ser Arg Val Gly Asn Pro
 355 360 365

Ile Asp His Leu Tyr Ser Met Gln Asn Ser Tyr Phe Thr Ser
 370 375 380

<210> 15

<211> 1562

<212> DNA

<213> Homo sapiens

<400> 15

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ttcccaggag tgcggtggct gctggcgccg agtcccagcg ggcacggacg tcagacgcat 180

cgtttcttct cctctacagg tcctcccggc ccggcccga catgctggac ggccctaaaga 240

tggaggagaa cttccaaagc gcgatcgaca cctgggcctc cttctcctcg ctgctgggca 300

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 gacagcttca gaagggtgat gagtttgtcc tgaaggaggg gcagctgctc tgcaaagggg 660
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tt 1562

<210> 16

<211> 382

<212> PRT

<213> Homo sapiens

<400> 16

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Thr Ser Ala Ser Phe Ser Ser Leu Leu Gly Arg Ala Val Ser Pro Lys
20 25 30

Ser Val Cys Glu Gly Cys Gln Arg Val Ile Leu Asp Arg Phe Leu Leu
35 40 45

Arg Leu Asn Asp Ser Phe Trp His Glu Gln Cys Val Gln Cys Ala Ser
50 55 60

Cys Lys Glu Pro Leu Glu Thr Thr Cys Phe Tyr Arg Asp Lys Lys Leu
65 70 75 80

Tyr Cys Lys Tyr Asp Tyr Glu Lys Leu Phe Ala Val Lys Cys Gly Gly
 85 90 95

Cys Phe Glu Ala Ile Ala Pro Asn Glu Phe Val Met Arg Ala Gln Lys
 100 105 110

Ser Val Tyr His Leu Ser Cys Phe Cys Cys Cys Val Cys Glu Arg Gln
 115 120 125

Leu Gln Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys
 130 135 140

Lys Gly Asp Tyr Glu Lys Glu Arg Glu Leu Leu Ser Leu Val Ser Pro
 145 150 155 160

Ala Ala Ser Asp Ser Gly Lys Ser Asp Asp Glu Glu Ser Leu Cys Lys
 165 170 175

Ser Ala His Gly Ala Gly Lys Gly Thr Ala Glu Glu Gly Lys Asp His
 180 185 190

Lys Arg Pro Lys Arg Pro Arg Thr Ile Leu Thr Thr Gln Gln Arg Arg
 195 200 205

Ala Phe Lys Ala Ser Phe Glu Val Ser Ser Lys Pro Cys Arg Lys Val
 210 215 220

Arg Glu Thr Leu Ala Ala Glu Thr Gly Leu Ser Val Arg Val Val Gln
 225 230 235 240

Val Trp Phe Gln Asn Gln Arg Ala Lys Met Lys Lys Leu Ala Arg Arg
 245 250 255

Gln Gln Gln Gln Gln Gln Asp Gln Gln Asn Thr Gln Arg Leu Ser Ser
 260 265 270

Ala Gln Thr Asn Gly Gly Gly Ser Ala Gly Met Glu Gly Ile Met Asn
 275 280 285

Pro Tyr Thr Ala Leu Pro Thr Pro Gln Gln Leu Leu Ala Ile Glu Gln
 290 295 300

Ser Val Tyr Ser Ser Asp Pro Phe Arg Gln Gly Leu Thr Pro Pro Gln
 305 310 315 320

Met Pro Gly Asp His Met His Pro Tyr Gly Ala Glu Pro Leu Phe His
 325 330 335

Asp Leu Asp Ser Asp Asp Thr Ser Leu Ser Asn Leu Gly Asp Cys Phe
 340 345 350

Leu Ala Thr Ser Glu Ala Gly Pro Leu Gln Ser Arg Val Gly Asn Pro
 355 360 365

Ile Asp His Leu Tyr Ser Met Gln Asn Ser Tyr Phe Thr Ser
 370 375 380

<210> 17

<211> 839

<212> DNA

<213> Homo sapiens

<400> 17

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taatgatatg gtgtagctca gcatttccaa agactgaata cattatggat tgcatagtt 839

<210> 18

<211> 133

<212> PRT

<213> Homo sapiens

<400> 18

Met Lys Lys Leu Ala Arg Arg Gln Gln Gln Gln Gln Asp Gln Gln

1 5 10 15

Asn Thr Gln Arg Leu Ser Ser Ala Gln Thr Asn Gly Gly Gly Ser Ala

20 25 30

Gly Met Glu Gly Ile Met Asn Pro Tyr Thr Ala Leu Pro Thr Pro Gln

35 40 45

Gln Leu Leu Ala Ile Glu Gln Ser Val Tyr Ser Ser Asp Pro Phe Arg

50 55 60

Gln Gly Leu Thr Pro Pro Gln Met Pro Gly Asp His Met His Pro Tyr

65 70 75 80

Gly Ala Glu Pro Leu Phe His Asp Leu Asp Ser Asp Asp Thr Ser Leu

85 90 95

Ser Asn Leu Gly Asp Cys Phe Leu Ala Thr Ser Glu Ala Gly Pro Leu

100

105

110

Gln Ser Arg Val Gly Asn Pro Ile Asp His Leu Tyr Ser Met Gln Asn

115

120

125

Ser Tyr Phe Thr Ser

130

<210> 19

<211> 1119

<212> DNA

<213> Mus musculus

<400> 19

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tccgaccgct tcctgatgog agtcaacgag tcgtcctggc acgaggagtg ttgcagtgc 180

gcggcatgtc agcaagccct caccaccagc tgctacttcc gggatcgga actgtactgc 240

aaacaagact accaacagct cttcgcgga aagtgcagcg gctgcatgga gaagatcgcg 300

cctaccgagt tcgtcatgog ggcgctggag tgtgtgtacc acttgggctg tttctgctgc 360

tgtgtgtgcg agaggcaact gcgcaagggg gacgagttcg tgctcaagga gggccagctg 420

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<210> 20
 <211> 372
 <212> PRT
 <213> Mus musculus

<400> 20

Met Leu Asp Gly Ile Lys Met Glu Glu His Ala Leu Arg Pro Gly Pro
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Ala Thr Leu Gly Val Leu Leu Gly Ser Asp Cys Pro His Pro Ala Val
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Cys Glu Gly Cys Gln Arg Pro Ile Ser Asp Arg Phe Leu Met Arg Val

35

40

45

Asn Glu Ser Ser Trp His Glu Glu Cys Leu Gln Cys Ala Ala Cys Gln
 50 55 60

Gln Ala Leu Thr Thr Ser Cys Tyr Phe Arg Asp Arg Lys Leu Tyr Cys
 65 70 75 80

Lys Gln Asp Tyr Gln Gln Leu Phe Ala Ala Lys Cys Ser Gly Cys Met
 85 90 95

Glu Lys Ile Ala Pro Thr Glu Phe Val Met Arg Ala Leu Glu Cys Val
 100 105 110

Tyr His Leu Gly Cys Phe Cys Cys Cys Val Cys Glu Arg Gln Leu Arg
 115 120 125

Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys Lys Gly
 130 135 140

Asp Tyr Glu Lys Glu Lys Asp Leu Leu Ser Ser Val Ser Pro Asp Glu
 145 150 155 160

Ser Asp Ser Val Lys Ser Glu Asp Glu Asp Gly Asp Met Lys Pro Ala
 165 170 175

Lys Gly Gln Gly Ser Gln Ser Lys Gly Ser Gly Asp Asp Gly Lys Asp

180

185

190

Pro Arg Arg Pro Lys Arg Pro Arg Thr Ile Leu Thr Thr Gln Gln Arg
 195 200 205

Arg Ala Phe Lys Ala Ser Phe Glu Val Ser Ser Lys Pro Cys Arg Lys
 210 215 220

Val Arg Glu Thr Leu Ala Ala Glu Thr Gly Leu Ser Val Arg Val Val
 225 230 235 240

Gln Val Trp Phe Gln Asn Gln Arg Ala Lys Met Lys Lys Leu Ala Arg
 245 250 255

Arg His Gln Gln Gln Gln Glu Gln Gln Asn Ser Gln Arg Leu Gly Gln
 260 265 270

Glu Val Leu Ser Ser Arg Met Glu Gly Met Met Ala Ser Tyr Thr Ala
 275 280 285

Leu Ala Pro Pro Gln Gln Gln Ile Val Ala Met Glu Gln Ser Pro Tyr
 290 295 300

Gly Ser Ser Asp Pro Phe Gln Gln Gly Leu Thr Pro Pro Gln Met Pro
 305 310 315 320

Gly Asn Asp Ser Ile Phe His Asp Ile Asp Ser Asp Thr Ser Leu Thr

325

330

335

Ser Leu Ser Asp Cys Phe Leu Gly Ser Ser Asp Val Gly Ser Leu Gln

340

345

350

Ala Arg Val Gly Asn Pro Ile Asp Arg Leu Tyr Ser Met Gln Ser Ser

355

360

365

Tyr Phe Ala Ser

370

<210> 21

<211> 1119

<212> DNA

<213> Homo sapiens

<400> 21

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tccgaccgct tcctgatgog agtcaacgag tcgtcctggc acgaggagtg tttgcagtgc 180

gcggcgtgtc agcaagccct caccaccagc tgctacttcc gggatcggaa actgtactgc 240

aaacaagact accaacagct cttcgcggcc aagtgcagcg gctgcatgga gaagatcgcc 300

cccaccgagt tcgtgatgog ggcgctggag tgcgtgtacc acctgggctg cttctgtctg 360

tgcgtgtgtg aacggcagct acgcaagggc gacgaattcg tgctcaagga gggccagctg 420

ctgtgcaagg gtgactacga gaaggagaag gacctgctca gtcctgtgag ccccgacgag 480

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<210> 22

<211> 372

<212> PRT

<213> Homo sapiens

<400> 22

Met Leu Asp Gly Ile Lys Met Glu Glu His Ala Leu Arg Pro Gly Pro

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5

10

15

Ala Thr Leu Gly Val Leu Leu Gly Ser Asp Cys Pro His Pro Ala Val

20

25

30

Cys Glu Gly Cys Gln Arg Pro Ile Ser Asp Arg Phe Leu Met Arg Val

35

40

45

Asn Glu Ser Ser Trp His Glu Glu Cys Leu Gln Cys Ala Ala Cys Gln

50

55

60

Gln Ala Leu Thr Thr Ser Cys Tyr Phe Arg Asp Arg Lys Leu Tyr Cys

65

70

75

80

Lys Gln Asp Tyr Gln Gln Leu Phe Ala Ala Lys Cys Ser Gly Cys Met

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Glu Lys Ile Ala Pro Thr Glu Phe Val Met Arg Ala Leu Glu Cys Val

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Tyr His Leu Gly Cys Phe Cys Cys Cys Val Cys Glu Arg Gln Leu Arg

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Lys Gly Asp Glu Phe Val Leu Lys Glu Gly Gln Leu Leu Cys Lys Gly

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Asp Tyr Glu Lys Glu Lys Asp Leu Leu Ser Ser Val Ser Pro Asp Glu

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160

Ser Asp Ser Val Lys Ser Glu Asp Glu Asp Gly Asp Met Lys Pro Ala

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Lys Gly Gln Gly Ser Gln Ser Lys Gly Ser Gly Asp Asp Gly Lys Asp

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185

190

Pro Arg Arg Pro Lys Arg Pro Arg Thr Ile Leu Thr Thr Gln Gln Arg

195

200

205

Arg Ala Phe Lys Ala Ser Phe Glu Val Ser Ser Lys Pro Cys Arg Lys

210

215

220

Val Arg Glu Thr Leu Ala Ala Glu Thr Gly Leu Ser Val Arg Val Val

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230

235

240

Gln Val Trp Phe Gln Asn Gln Arg Ala Lys Met Lys Lys Leu Ala Arg

245

250

255

Arg His Gln Gln Gln Gln Glu Gln Gln Asn Ser Gln Arg Leu Gly Gln

260

265

270

Glu Val Leu Ser Ser Arg Met Glu Gly Met Met Ala Ser Tyr Thr Pro

275

280

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 35 40 45

Thr Glu Ile Thr Ala Thr Thr Ser Leu Pro Ser Phe Ser Thr Phe Met
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Asp Asn Tyr Ser Thr Gly Tyr Asp Val Lys Pro Pro Cys Leu Tyr Gln
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Met Pro Leu Ser Gly Gln Gln Ser Ser Ile Lys Val Glu Asp Ile Gln
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Met His Asn Tyr Gln Gln His Ser His Leu Pro Pro Gln Ser Glu Glu
 100 105 110

Met Met Pro His Ser Gly Ser Val Tyr Tyr Lys Pro Ser Ser Pro Pro
 115 120 125

Thr Pro Ser Thr Pro Ser Phe Gln Val Gln His Ser Pro Met Trp Asp
 130 135 140

Asp Pro Gly Ser Leu His Asn Phe His Gln Asn Tyr Val Ala Thr Thr
 145 150 155 160

His Met Ile Glu Gln Arg Lys Thr Pro Val Ser Arg Leu Ser Leu Phe
 165 170 175

Ser Phe Lys Gln Ser Pro Pro Gly Thr Pro Val Ser Ser Cys Gln Met
 180 185 190

Arg Phe Asp Gly Pro Leu His Val Pro Met Asn Pro Glu Pro Ala Gly
 195 200 205

Ser His His Val Val Asp Gly Gln Thr Phe Ala Val Pro Asn Pro Ile
 210 215 220

Arg Lys Pro Ala Ser Met Gly Phe Pro Gly Leu Gln Ile Gly His Ala
 225 230 235 240

Ser Gln Leu Leu Asp Thr Gln Val Pro Ser Pro Pro Ser Arg Gly Ser
 245 250 255

Pro Ser Asn Glu Gly Leu Cys Ala Val Cys Gly Asp Asn Ala Ala Cys
 260 265 270

Gln His Tyr Gly Val Arg Thr Cys Glu Gly Cys Lys Gly Phe Phe Lys
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Arg Thr Val Gln Lys Asn Ala Lys Tyr Val Cys Leu Ala Asn Lys Asn
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Cys Pro Val Asp Lys Arg Arg Arg Asn Arg Cys Gln Tyr Cys Arg Phe
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Gln Lys Cys Leu Ala Val Gly Met Val Lys Glu Val Val Arg Thr Asp
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Ser Leu Lys Gly Arg Arg Gly Arg Leu Pro Ser Lys Pro Lys Ser Pro
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Gln Asp Pro Ser Pro Pro Ser Pro Pro Val Ser Leu Ile Ser Ala Leu
 355 360 365

Val Arg Ala His Val Asp Ser Asn Pro Ala Met Thr Ser Leu Asp Tyr
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Ser Arg Phe Gln Ala Asn Pro Asp Tyr Gln Met Ser Gly Asp Asp Thr
 385 390 395 400

Gln His Ile Gln Gln Phe Tyr Asp Leu Leu Thr Gly Ser Met Glu Ile
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Ile Arg Gly Trp Ala Glu Lys Ile Pro Gly Phe Ala Asp Leu Pro Lys
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Ala Asp Gln Asp Leu Leu Phe Glu Ser Ala Phe Leu Glu Leu Phe Val
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Leu Arg Leu Ala Tyr Arg Ser Asn Pro Val Glu Gly Lys Leu Ile Phe
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Cys Asn Gly Val Val Leu His Arg Leu Gln Cys Val Arg Gly Phe Gly
 465 470 475 480

Glu Trp Ile Asp Ser Ile Val Glu Phe Ser Ser Asn Leu Gln Asn Met
 485 490 495

Asn Ile Asp Ile Ser Ala Phe Ser Cys Ile Ala Ala Leu Ala Met Val
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Thr Glu Arg His Gly Leu Lys Glu Pro Lys Arg Val Glu Glu Leu Gln
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Asn Lys Ile Val Asn Cys Leu Lys Asp His Val Thr Phe Asn Asn Gly
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Gly Leu Asn Arg Pro Asn Tyr Leu Ser Lys Leu Leu Gly Lys Leu Pro
 545 550 555 560

Glu Leu Arg Thr Leu Cys Thr Gln Gly Leu Gln Arg Ile Phe Tyr Leu
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Leu Asp Thr Leu Pro Phe
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<213> Homo sapiens

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Asp Phe Leu Thr Pro Glu Phe Val Lys Phe Ser Met Asp Leu Thr Asn
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Thr Glu Ile Thr Ala Thr Thr Ser Leu Pro Ser Phe Ser Thr Phe Met
 50 55 60

Asp Asn Tyr Ser Thr Gly Tyr Asp Val Lys Pro Pro Cys Leu Tyr Gln
 65 70 75 80

Met Pro Leu Ser Gly Gln Gln Ser Ser Ile Lys Val Glu Asp Ile Gln
 85 90 95

Met His Asn Tyr Gln Gln His Ser His Leu Pro Pro Gln Ser Glu Glu
 100 105 110

Met Met Pro His Ser Gly Ser Val Tyr Tyr Lys Pro Ser Ser Pro Pro
 115 120 125

Thr Pro Thr Thr Pro Gly Phe Gln Val Gln His Ser Pro Met Trp Asp
 130 135 140

Asp Pro Gly Ser Leu His Asn Phe His Gln Asn Tyr Val Ala Thr Thr
 145 150 155 160

His Met Ile Glu Gln Arg Lys Thr Pro Val Ser Arg Leu Ser Leu Phe

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Ser Phe Lys Gln Ser Pro Pro Gly Thr Pro Val Ser Ser Cys Gln Met
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Arg Phe Asp Gly Pro Leu His Val Pro Met Asn Pro Glu Pro Ala Gly
 195 200 205

Ser His His Val Val Asp Gly Gln Thr Phe Ala Val Pro Asn Pro Ile
 210 215 220

Arg Lys Pro Ala Ser Met Gly Phe Pro Gly Leu Gln Ile Gly His Ala
 225 230 235 240

Ser Gln Leu Leu Asp Thr Gln Val Pro Ser Pro Pro Ser Arg Gly Ser
 245 250 255

Pro Ser Asn Glu Gly Leu Cys Ala Val Cys Gly Asp Asn Ala Ala Cys
 260 265 270

Gln His Tyr Gly Val Arg Thr Cys Glu Gly Cys Lys Gly Phe Phe Lys
 275 280 285

Arg Thr Val Gln Lys Asn Ala Lys Tyr Val Cys Leu Ala Asn Lys Asn
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Cys Pro Val Asp Lys Arg Arg Arg Asn Arg Cys Gln Tyr Cys Arg Phe

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Cys Asn Gly Val Val Leu His Arg Leu Gln Cys Val Arg Gly Phe Gly
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Glu Trp Ile Asp Ser Ile Val Glu Phe Ser Ser Asn Leu Gln Asn Met
 485 490 495

Asn Ile Asp Ile Ser Ala Phe Ser Cys Ile Ala Ala Leu Ala Met Val
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Thr Glu Arg His Gly Leu Lys Glu Pro Lys Arg Val Glu Glu Leu Gln
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Gly Leu Asn Arg Pro Asn Tyr Leu Ser Lys Leu Leu Gly Lys Leu Pro
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Glu Leu Arg Thr Leu Cys Thr Gln Gly Leu Gln Arg Ile Phe Tyr Leu
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Ser Pro Gln Pro Ala Pro Pro Ser Pro Pro Ala Ala Pro Cys Leu Pro
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Pro Leu Ala His His Pro His Leu Pro Pro His Pro Pro Pro Pro Pro
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Pro Pro Pro Pro Pro Pro Pro Gln His Leu Ala Ala Pro Ala His Gln
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Pro Gln Pro Ala Ala Gln Leu His Arg Thr Thr Asn Phe Phe Ile Asp
 100 105 110

Asn Ile Leu Arg Pro Asp Phe Gly Cys Lys Lys Glu Gln Pro Leu Pro
 115 120 125

Gln Leu Leu Val Ala Ser Ala Ala Ala Gly Gly Gly Ala Ala Ala Gly
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Gly Gly Ser Arg Val Glu Arg Asp Arg Gly Gln Thr Gly Ala Gly Arg
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Asp Pro Val His Ser Leu Gly Thr Arg Ala Ser Gly Ala Ala Ser Leu
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Leu Cys Ala Pro Asp Ala Asn Cys Gly Pro Pro Asp Gly Ser Gln Pro
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Ala Thr Ala Val Gly Ala Gly Ala Ser Lys Ala Gly Asn Pro Ala Ala
 195 200 205

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Val Ala Ala Ala
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Ala Ala Ala Ala Ser Lys Pro Ser Asp Ser Gly Gly Gly Ser Gly Gly
 225 230 235 240

Asn Ala Gly Ser Pro Gly Ala Gln Gly Ala Lys Phe Pro Glu His Asn
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Pro Ala Ile Leu Leu Met Gly Ser Ala Asn Gly Gly Pro Val Val Lys
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Thr Asp Ser Gln Gln Pro Leu Val Trp Pro Ala Trp Val Tyr Cys Thr
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Arg Tyr Ser Asp Arg Pro Ser Ser Gly Pro Arg Thr Arg Lys Leu Lys
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Lys Lys Lys Asn Glu Lys Glu Asp Lys Arg Pro Arg Thr Ala Phe Thr
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Ile Thr Glu Gln Arg Arg Gln Thr Leu Ala Gln Glu Leu Ser Leu Asn
 340 345 350

Glu Ser Gln Ile Lys Ile Trp Phe Gln Asn Lys Arg Ala Lys Ile Lys
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<211> 392

<212> PRT

<213> Homo sapiens

<400> 30

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Gly Gly Ala Ala Ala Ala Thr Pro Gly Gly Leu Ser Leu Ser Leu Ser

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Pro Gly Ala Ser Gly Ser Ser Gly Ser Gly Ser Asp Gly Asp Ser Val

35 40 45

Pro Val Ser Pro Gln Pro Ala Pro Pro Ser Pro Pro Ala Ala Pro Cys
50 55 60

Leu Pro Pro Leu Ala His His Pro His Leu Pro Pro His Pro Pro Pro
65 70 75 80

Pro Pro Pro Gln His Leu Ala Ala Pro Ala His Gln Pro Gln Pro Ala
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Ala Gln Leu His Arg Thr Thr Asn Phe Phe Ile Asp Asn Ile Leu Arg
100 105 110

Pro Asp Phe Gly Cys Lys Lys Glu Gln Pro Pro Pro Gln Leu Leu Val
115 120 125

Ala Ala Ala Ala Arg Gly Gly Ala Gly Gly Gly Gly Arg Val Glu Arg
130 135 140

Asp Arg Gly Gln Thr Ala Ala Gly Arg Asp Pro Val His Pro Leu Gly
145 150 155 160

Thr Arg Ala Pro Gly Ala Ala Ser Leu Leu Cys Ala Pro Asp Ala Asn
165 170 175

Cys Gly Pro Pro Asp Gly Ser Gln Pro Ala Ala Ala Gly Ala Gly Ala

180

185

190

Ser Lys Ala Gly Asn Pro Ala Ala Ala Ala Ala Ala Ala Ala Ala
 195 200 205

Val Ala Ala Ala Ala Ala Ala Ala Ala Ala Lys Pro Ser Asp Thr Gly
 210 215 220

Gly Gly Gly Ser Gly Gly Gly Ala Gly Ser Pro Gly Ala Gln Gly Thr
 225 230 235 240

Lys Tyr Pro Glu His Gly Asn Pro Ala Ile Leu Leu Met Gly Ser Ala
 245 250 255

Asn Gly Gly Pro Val Val Lys Thr Asp Ser Gln Gln Pro Leu Val Trp
 260 265 270

Pro Ala Trp Val Tyr Cys Thr Arg Tyr Ser Asp Arg Pro Ser Ser Gly
 275 280 285

Pro Arg Thr Arg Lys Leu Lys Lys Lys Lys Asn Glu Lys Glu Asp Lys
 290 295 300

Arg Pro Arg Thr Ala Phe Thr Ala Glu Gln Leu Gln Arg Leu Lys Ala
 305 310 315 320

Glu Phe Gln Ala Asn Arg Tyr Ile Thr Glu Gln Arg Arg Gln Thr Leu

325

330

335

Ala Gln Glu Leu Ser Leu Asn Glu Ser Gln Ile Lys Ile Trp Phe Gln

340

345

350

Asn Lys Arg Ala Lys Ile Lys Lys Ala Thr Gly Ile Lys Asn Gly Leu

355

360

365

Ala Leu His Leu Met Ala Gln Gly Leu Tyr Asn His Ser Thr Thr Thr

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375

380

Val Gln Asp Lys Asp Glu Ser Glu

385

390

<210> 31

<211> 1392

<212> DNA

<213> Mus musculus

<400> 31

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<210> 32
 <211> 302
 <212> PRT
 <213> Mus musculus

<400> 32

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Ser Leu Ser Asp Ala Gly Thr Pro His Pro Pro Leu Pro Glu His Gly
 20 25 30

Cys Lys Gly Gln Glu His Ser Asp Ser Glu Lys Ala Ser Ala Ser Leu
 35 40 45

Pro Gly Gly Ser Pro Glu Asp Gly Ser Leu Lys Lys Lys Gln Arg Arg
 50 55 60

Gln Arg Thr His Phe Thr Ser Gln Gln Leu Gln Glu Leu Glu Ala Thr
 65 70 75 80

Phe Gln Arg Asn Arg Tyr Pro Asp Met Ser Thr Arg Glu Glu Ile Ala
 85 90 95

Val Trp Thr Asn Leu Thr Glu Ala Arg Val Arg Val Trp Phe Lys Asn
 100 105 110

Arg Arg Ala Lys Trp Arg Lys Arg Glu Arg Ser Gln Gln Ala Glu Leu
 115 120 125

Cys Lys Gly Gly Phe Ala Ala Pro Leu Gly Gly Leu Val Pro Pro Tyr
 130 135 140

Glu Glu Val Tyr Pro Gly Tyr Ser Tyr Gly Asn Trp Pro Pro Lys Ala
 145 150 155 160

Leu Ala Pro Pro Leu Ala Ala Lys Thr Phe Pro Phe Ala Phe Asn Ser
 165 170 175

Val Asn Val Gly Pro Leu Ala Ser Gln Pro Val Phe Ser Pro Pro Ser
 180 185 190

Ser Ile Ala Ala Ser Met Val Pro Ser Ala Ala Ala Ala Pro Gly Thr
 195 200 205

Val Pro Gly Pro Gly Ala Leu Gln Gly Leu Gly Gly Ala Pro Pro Gly
 210 215 220

Leu Ala Pro Ala Ala Val Ser Ser Gly Ala Val Ser Cys Pro Tyr Ala
 225 230 235 240

Ser Ala Ala Ala Ala Ala Ala Ala Ala Ala Ser Ser Pro Tyr Val Tyr
 245 250 255

Arg Asp Pro Cys Asn Ser Ser Leu Ala Ser Leu Arg Leu Lys Ala Lys
 260 265 270

Gln His Ala Ser Phe Ser Tyr Pro Ala Val Pro Gly Pro Pro Pro Ala
 275 280 285

Ala Asn Leu Ser Pro Cys Gln Tyr Ala Val Glu Arg Pro Val
 290 295 300

<210> 33
 <211> 1407
 <212> DNA
 <213> Homo sapiens

<400> 33
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<210> 34
 <211> 302
 <212> PRT
 <213> Homo sapiens

<400> 34

Met Glu Phe Gly Leu Leu Ser Glu Ala Glu Ala Arg Ser Pro Ala Leu
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Ser Leu Ser Asp Ala Gly Thr Pro His Pro Gln Leu Pro Glu His Gly
 20 25 30

Cys Lys Gly Gln Glu His Ser Asp Ser Glu Lys Ala Ser Ala Ser Leu
 35 40 45

Pro Gly Gly Ser Pro Glu Asp Gly Ser Leu Lys Lys Lys Gln Arg Arg
 50 55 60

Gln Arg Thr His Phe Thr Ser Gln Gln Leu Gln Glu Leu Glu Ala Thr
 65 70 75 80

Phe Gln Arg Asn Arg Tyr Pro Asp Met Ser Thr Arg Glu Glu Ile Ala
 85 90 95

Val Trp Thr Asn Leu Thr Glu Ala Arg Val Arg Val Trp Phe Lys Asn
 100 105 110

Arg Arg Ala Lys Trp Arg Lys Arg Glu Arg Ser Gln Gln Ala Glu Leu
 115 120 125

Cys Lys Gly Ser Phe Ala Ala Pro Leu Gly Gly Leu Val Pro Pro Tyr

130

135

140

Glu Glu Val Tyr Pro Gly Tyr Ser Tyr Gly Asn Trp Pro Pro Lys Ala
 145 150 155 160

Leu Ala Pro Pro Leu Ala Ala Lys Thr Phe Pro Phe Ala Phe Asn Ser
 165 170 175

Val Asn Val Gly Pro Leu Ala Ser Gln Pro Val Phe Ser Pro Pro Ser
 180 185 190

Ser Ile Ala Ala Ser Met Val Pro Ser Ala Ala Ala Ala Pro Gly Thr
 195 200 205

Val Pro Gly Pro Gly Ala Leu Gln Gly Leu Gly Gly Gly Pro Pro Gly
 210 215 220

Leu Ala Pro Ala Ala Val Ser Ser Gly Ala Val Ser Cys Pro Tyr Ala
 225 230 235 240

Ser Ala Ala Ala Ala Ala Ala Ala Ala Ala Ser Ser Pro Tyr Val Tyr
 245 250 255

Arg Asp Pro Cys Asn Ser Ser Leu Ala Ser Leu Arg Leu Lys Ala Lys
 260 265 270

Gln His Ala Ser Phe Ser Tyr Pro Ala Val His Gly Pro Pro Pro Ala

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<210> 36

<211> 498

<212> PRT

<213> Mus musculus

<400> 36

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Ala Val Ser Glu Gln Asp Thr Lys Gln Ala Glu Ala Val Thr Ser Pro
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Arg Phe Ile Gly Arg Arg Gln Ser Leu Ile Glu Asp Ala Arg Lys Glu
 35 40 45

Arg Glu Ala Ala Ala Ala Ala Ala Ala Ala Val Ala Ser Ala Glu
 50 55 60

Pro Gly Asn Pro Leu Glu Ala Val Val Phe Glu Glu Arg Asp Gly Asn
 65 70 75 80

Ala Val Leu Asn Leu Leu Phe Ser Leu Arg Gly Thr Lys Pro Ser Ser
 85 90 95

Leu Ser Arg Ala Leu Lys Val Phe Glu Thr Phe Glu Ala Lys Ile His
 100 105 110

His Leu Glu Thr Arg Pro Ala Gln Arg Pro Leu Ala Gly Ser Pro His
 115 120 125

Leu Glu Tyr Phe Val Arg Phe Glu Val Pro Ser Gly Asp Leu Ala Ala
 130 135 140

Leu Leu Ser Ser Val Arg Arg Val Ser Asp Asp Val Arg Ser Ala Arg
 145 150 155 160

Glu Asp Lys Val Pro Trp Phe Pro Arg Lys Val Ser Glu Leu Asp Lys
 165 170 175

Cys His His Leu Val Thr Lys Phe Asp Pro Asp Leu Asp Leu Asp His
 180 185 190

Pro Gly Phe Ser Asp Gln Ala Tyr Arg Gln Arg Arg Lys Leu Ile Ala
 195 200 205

Glu Ile Ala Phe Gln Tyr Lys Gln Gly Glu Pro Ile Pro His Val Glu
 210 215 220

Tyr Thr Lys Glu Glu Ile Ala Thr Trp Lys Glu Val Tyr Ala Thr Leu
 225 230 235 240

Lys Gly Leu Tyr Ala Thr His Ala Cys Arg Glu His Leu Glu Ala Phe
 245 250 255

Gln Leu Leu Glu Arg Tyr Cys Gly Tyr Arg Glu Asp Ser Ile Pro Gln
260 265 270

Leu Glu Asp Val Ser His Phe Leu Lys Glu Arg Thr Gly Phe Gln Leu
275 280 285

Arg Pro Val Ala Gly Leu Leu Ser Ala Arg Asp Phe Leu Ala Ser Leu
290 295 300

Ala Phe Arg Val Phe Gln Cys Thr Gln Tyr Ile Arg His Ala Ser Ser
305 310 315 320

Pro Met His Ser Pro Glu Pro Asp Cys Cys His Glu Leu Leu Gly His
325 330 335

Val Pro Met Leu Ala Asp Arg Thr Phe Ala Gln Phe Ser Gln Asp Ile
340 345 350

Gly Leu Ala Ser Leu Gly Ala Ser Asp Glu Glu Ile Glu Lys Leu Ser
355 360 365

Thr Val Tyr Trp Phe Thr Val Glu Phe Gly Leu Cys Lys Gln Asn Gly
370 375 380

Glu Leu Lys Ala Tyr Gly Ala Gly Leu Leu Ser Ser Tyr Gly Glu Leu
385 390 395 400

Leu His Ser Leu Ser Glu Glu Pro Glu Val Arg Ala Phe Asp Pro Asp
 405 410 415

Thr Ala Ala Val Gln Pro Tyr Gln Asp Gln Thr Tyr Gln Pro Val Tyr
 420 425 430

Phe Val Ser Glu Ser Phe Ser Asp Ala Lys Asp Lys Leu Arg Asn Tyr
 435 440 445

Ala Ser Arg Ile Gln Arg Pro Phe Ser Val Lys Phe Asp Pro Tyr Thr
 450 455 460

Leu Ala Ile Asp Val Leu Asp Ser Pro His Thr Ile Arg Arg Ser Leu
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Glu Gly Val Gln Asp Glu Leu His Thr Leu Thr Gln Ala Leu Ser Ala
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Ile Ser

<210> 37

<211> 1921

<212> DNA

<213> Homo sapiens

<400> 37

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<210> 38

<211> 528

<212> PRT

<213> Homo sapiens

<400> 38

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Gly Gln Gly Ala Pro Gly Pro Ser Leu Thr Gly Ser Pro Trp Pro Gly
 35 40 45

Thr Ala Ala Pro Ala Ala Ser Tyr Thr Pro Thr Pro Arg Ser Pro Arg
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Phe Ile Gly Arg Arg Gln Ser Leu Ile Glu Asp Ala Arg Lys Glu Arg
 65 70 75 80

Glu Ala Ala Val Ala Ala Ala Ala Ala Val Pro Ser Glu Pro Gly
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Asp Pro Leu Glu Ala Val Ala Phe Glu Glu Lys Glu Gly Lys Ala Val
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Leu Asn Leu Leu Phe Ser Pro Arg Ala Thr Lys Pro Ser Ala Leu Ser
 115 120 125

Arg Ala Val Lys Val Phe Glu Thr Phe Glu Ala Lys Ile His His Leu
 130 135 140

Glu Thr Arg Pro Ala Gln Arg Pro Arg Ala Gly Gly Pro His Leu Glu
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Tyr Phe Val Arg Leu Glu Val Arg Arg Gly Asp Leu Ala Ala Leu Leu
 165 170 175

Ser Gly Val Arg Gln Val Ser Glu Asp Val Arg Ser Pro Ala Gly Pro
 180 185 190

Lys Val Pro Trp Phe Pro Arg Lys Val Ser Glu Leu Asp Lys Cys His
 195 200 205

His Leu Val Thr Lys Phe Asp Pro Asp Leu Asp Leu Asp His Pro Gly
 210 215 220

Phe Ser Asp Gln Val Tyr Arg Gln Arg Arg Lys Leu Ile Ala Glu Ile
 225 230 235 240

Ala Phe Gln Tyr Arg His Gly Asp Pro Ile Pro Arg Val Glu Tyr Thr
 245 250 255

Ala Glu Glu Ile Ala Thr Trp Lys Glu Val Tyr Thr Thr Leu Lys Gly
 260 265 270

Leu Tyr Ala Thr His Ala Cys Gly Glu His Leu Glu Ala Phe Ala Leu
 275 280 285

Leu Glu Arg Phe Ser Gly Tyr Arg Glu Asp Asn Ile Pro Gln Leu Glu
290 295 300

Asp Val Ser Arg Phe Leu Lys Glu Arg Thr Gly Phe Gln Leu Arg Pro
305 310 315 320

Val Ala Gly Leu Leu Ser Ala Arg Asp Phe Leu Ala Ser Leu Ala Phe
325 330 335

Arg Val Phe Gln Cys Thr Gln Tyr Ile Arg His Ala Ser Ser Pro Met
340 345 350

His Ser Pro Glu Pro Asp Cys Cys His Glu Leu Leu Gly His Val Pro
355 360 365

Met Leu Ala Asp Arg Thr Phe Ala Gln Phe Ser Gln Asp Ile Gly Leu
370 375 380

Ala Ser Leu Gly Ala Ser Asp Glu Glu Ile Glu Lys Leu Ser Thr Leu
385 390 395 400

Ser Trp Phe Thr Val Glu Phe Gly Leu Cys Lys Gln Asn Gly Glu Val
405 410 415

Lys Ala Tyr Gly Ala Gly Leu Leu Ser Ser Tyr Gly Glu Leu Leu His
420 425 430

Cys Leu Ser Glu Glu Pro Glu Ile Arg Ala Phe Asp Pro Glu Ala Ala
 435 440 445

Ala Val Gln Pro Tyr Gln Asp Gln Thr Tyr Gln Ser Val Tyr Phe Val
 450 455 460

Ser Glu Ser Phe Ser Asp Ala Lys Asp Lys Leu Arg Ser Tyr Ala Ser
 465 470 475 480

Arg Ile Gln Arg Pro Phe Ser Val Lys Phe Asp Pro Tyr Thr Leu Ala
 485 490 495

Ile Asp Val Leu Asp Ser Pro Gln Ala Val Arg Arg Ser Leu Glu Gly
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Val Gln Asp Glu Leu Asp Thr Leu Ala His Ala Leu Ser Ala Ile Gly
 515 520 525

<210> 39

<211> 3393

<212> DNA

<213> Mus musculus

<400> 39

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tggtggcccc ggctaaagag cccaatgctg tgggccccag agaggtggag ctcattttgg 180

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<210> 40
 <211> 619
 <212> PRT
 <213> Mus musculus

<400> 40

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Pro Ala Lys Glu Pro Asn Ala Val Gly Pro Arg Glu Val Glu Leu Ile
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Leu Val Lys Glu Gln Asn Gly Val Gln Leu Thr Asn Ser Thr Leu Ile
 35 40 45

Asn Pro Pro Gln Thr Pro Val Glu Val Gln Glu Arg Glu Thr Trp Ser
 50 55 60

Lys Lys Ile Asp Phe Leu Leu Ser Val Ile Gly Phe Ala Val Asp Leu
 65 70 75 80

Ala Asn Val Trp Arg Phe Pro Tyr Leu Cys Tyr Lys Asn Gly Gly Gly
 85 90 95

Ala Phe Leu Val Pro Tyr Leu Leu Phe Met Val Ile Ala Gly Met Pro
 100 105 110

Leu Phe Tyr Met Glu Leu Ala Leu Gly Gln Phe Asn Arg Glu Gly Ala
 115 120 125

Ala Gly Val Trp Lys Ile Cys Pro Val Leu Lys Gly Val Gly Phe Thr
 130 135 140

Val Ile Leu Ile Ser Phe Tyr Val Gly Phe Phe Tyr Asn Val Ile Ile
 145 150 155 160

Ala Trp Ala Leu His Tyr Phe Phe Ser Ser Phe Thr Met Asp Leu Pro
 165 170 175

Trp Ile His Cys Asn Asn Thr Trp Asn Ser Pro Asn Cys Ser Asp Ala
 180 185 190

His Ser Ser Asn Ser Ser Asp Gly Leu Gly Leu Asn Asp Thr Phe Gly
 195 200 205

Thr Thr Pro Ala Ala Glu Tyr Phe Glu Arg Gly Val Leu His Leu His
 210 215 220

Gln Ser Arg Gly Ile Asp Asp Leu Gly Pro Pro Arg Trp Gln Leu Thr
 225 230 235 240

Ala Cys Leu Val Leu Val Ile Val Leu Leu Tyr Phe Ser Leu Trp Lys
 245 250 255

Gly Val Lys Thr Ser Gly Lys Val Val Trp Ile Thr Ala Thr Met Pro
 260 265 270

Tyr Val Val Leu Thr Ala Leu Leu Leu Arg Gly Val Thr Leu Pro Gly
 275 280 285

Ala Met Asp Gly Ile Arg Ala Tyr Leu Ser Val Asp Phe Tyr Arg Leu
 290 295 300

Cys Glu Ala Ser Val Trp Ile Asp Ala Ala Thr Gln Val Cys Phe Ser
 305 310 315 320

Leu Gly Val Gly Phe Gly Val Leu Ile Ala Phe Ser Ser Tyr Asn Lys
 325 330 335

Phe Thr Asn Asn Cys Tyr Arg Asp Ala Ile Ile Thr Thr Ser Ile Asn
 340 345 350

Ser Leu Thr Ser Phe Ser Ser Gly Phe Val Val Phe Ser Phe Leu Gly
 355 360 365

Tyr Met Ala Gln Lys His Asn Val Pro Ile Arg Asp Val Ala Thr Asp
 370 375 380

Gly Pro Gly Leu Ile Phe Ile Ile Tyr Pro Glu Ala Ile Ala Thr Leu
 385 390 395 400

Pro Leu Ser Ser Ala Trp Ala Ala Val Phe Phe Leu Met Leu Leu Thr
405 410 415

Leu Gly Ile Asp Ser Ala Met Gly Gly Met Glu Ser Val Ile Thr Gly
420 425 430

Leu Val Asp Glu Phe Gln Leu Leu His Arg His Arg Glu Leu Phe Thr
435 440 445

Leu Gly Ile Val Leu Ala Thr Phe Leu Leu Ser Leu Phe Cys Val Thr
450 455 460

Asn Gly Gly Ile Tyr Val Phe Thr Leu Leu Asp His Phe Ala Ala Gly
465 470 475 480

Thr Ser Ile Leu Phe Gly Val Leu Ile Glu Ala Ile Gly Val Ala Trp
485 490 495

Phe Tyr Gly Val Gln Gln Phe Ser Asp Asp Ile Lys Gln Met Thr Gly
500 505 510

Gln Arg Pro Asn Leu Tyr Trp Arg Leu Cys Trp Lys Leu Val Ser Pro
515 520 525

Cys Phe Leu Leu Tyr Val Val Val Val Ser Ile Val Thr Phe Arg Pro
530 535 540

Pro His Tyr Gly Ala Tyr Ile Phe Pro Asp Trp Ala Asn Ala Leu Gly
 545 550 555 560

Trp Ile Ile Ala Thr Ser Ser Met Ala Met Val Pro Ile Tyr Ala Thr
 565 570 575

Tyr Lys Phe Cys Ser Leu Pro Gly Ser Phe Arg Glu Lys Leu Ala Tyr
 580 585 590

Ala Ile Thr Pro Glu Lys Asp Arg Gln Leu Val Asp Arg Gly Glu Val
 595 600 605

Arg Gln Phe Thr Leu Arg His Trp Leu Leu Val
 610 615

<210> 41
 <211> 3946
 <212> DNA
 <213> Homo sapiens

<400> 41
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<210> 42

<211> 620

<212> PRT

<213> Homo sapiens

<400> 42

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Pro Ala Lys Glu Pro Asn Ala Val Gly Pro Lys Glu Val Glu Leu Ile
 20 25 30

Leu Val Lys Glu Gln Asn Gly Val Gln Leu Thr Ser Ser Thr Leu Thr
 35 40 45

Asn Pro Arg Gln Ser Pro Val Glu Ala Gln Asp Arg Glu Thr Trp Gly

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Gly Thr Thr Pro Ala Ala Glu Tyr Phe Glu Arg Gly Val Leu His Leu		
210	215	220
His Gln Ser His Gly Ile Asp Asp Leu Gly Pro Pro Arg Trp Gln Leu		
225	230	235 240
Thr Ala Cys Leu Val Leu Val Ile Val Leu Leu Tyr Phe Ser Leu Trp		
245	250	255
Lys Gly Val Lys Thr Ser Gly Lys Val Val Trp Ile Thr Ala Thr Met		
260	265	270
Pro Tyr Val Val Leu Thr Ala Leu Leu Leu Arg Gly Val Thr Leu Pro		
275	280	285
Gly Ala Ile Asp Gly Ile Arg Ala Tyr Leu Ser Val Asp Phe Tyr Arg		
290	295	300
Leu Cys Glu Ala Ser Val Trp Ile Asp Ala Ala Thr Gln Val Cys Phe		
305	310	315 320
Ser Leu Gly Val Gly Phe Gly Val Leu Ile Ala Phe Ser Ser Tyr Asn		
325	330	335
Lys Phe Thr Asn Asn Cys Tyr Arg Asp Ala Ile Val Thr Thr Ser Ile		

340

345

350

Asn Ser Leu Thr Ser Phe Ser Ser Gly Phe Val Val Phe Ser Phe Leu
 355 360 365

Gly Tyr Met Ala Gln Lys His Ser Val Pro Ile Gly Asp Val Ala Lys
 370 375 380

Asp Gly Pro Gly Leu Ile Phe Ile Ile Tyr Pro Glu Ala Ile Ala Thr
 385 390 395 400

Leu Pro Leu Ser Ser Ala Trp Ala Val Val Phe Phe Ile Met Leu Leu
 405 410 415

Thr Leu Gly Ile Asp Ser Ala Met Gly Gly Met Glu Ser Val Ile Thr
 420 425 430

Gly Leu Ile Asp Glu Phe Gln Leu Leu His Arg His Arg Glu Leu Phe
 435 440 445

Thr Leu Phe Ile Val Leu Ala Thr Phe Leu Leu Ser Leu Phe Cys Val
 450 455 460

Thr Asn Gly Gly Ile Tyr Val Phe Thr Leu Leu Asp His Phe Ala Ala
 465 470 475 480

Gly Thr Ser Ile Leu Phe Gly Val Leu Ile Glu Ala Ile Gly Val Ala

485

490

495

Trp Phe Tyr Gly Val Gly Gln Phe Ser Asp Asp Ile Gln Gln Met Thr
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Gly Gln Arg Pro Ser Leu Tyr Trp Arg Leu Cys Trp Lys Leu Val Ser
 515 520 525

Pro Cys Phe Leu Leu Phe Val Val Val Val Ser Ile Val Thr Phe Arg
 530 535 540

Pro Pro His Tyr Gly Ala Tyr Ile Phe Pro Asp Trp Ala Asn Ala Leu
 545 550 555 560

Gly Trp Val Ile Ala Thr Ser Ser Met Ala Met Val Pro Ile Tyr Ala
 565 570 575

Ala Tyr Lys Phe Cys Ser Leu Pro Gly Ser Phe Arg Glu Lys Leu Ala
 580 585 590

Tyr Ala Ile Ala Pro Glu Lys Asp Arg Glu Leu Val Asp Arg Gly Glu
 595 600 605

Val Arg Gln Phe Thr Leu Arg His Trp Leu Lys Val
 610 615 620

<211> 2038

<212> DNA

<213> Mus musculus

<400> 43

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acaatgaatg gcacaattca gtgagcggca agaaatttcc agttottaac cctgcaactg	180
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ctgcaagaca ggctttccag attggctctc catggcgcac catggatgct tcagagaggg	300
gctgcctgct gaacaagctg gctgacttaa tggagagaga tcgtctgctg ctagctacaa	360
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caagtgatgg agacattttc acttatacaa gacgtgaacc tattggagtg tgtggccaaa	540
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 <212> PRT
 <213> Mus musculus

<400> 44

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Lys Ile Gln His Thr Lys Ile Phe Ile Asn Asn Glu Trp His Asn Ser
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Val Ser Gly Lys Lys Phe Pro Val Leu Asn Pro Ala Thr Glu Glu Val
 35 40 45

Ile Cys His Val Glu Glu Gly Asp Lys Ala Asp Val Asp Lys Ala Val
 50 55 60

Lys Ala Ala Arg Gln Ala Phe Gln Ile Gly Ser Pro Trp Arg Thr Met
 65 70 75 80

Asp Ala Ser Glu Arg Gly Cys Leu Leu Asn Lys Leu Ala Asp Leu Met
 85 90 95

Glu Arg Asp Arg Leu Leu Leu Ala Thr Met Glu Ala Leu Asn Gly Gly
 100 105 110

Lys Val Phe Ala Asn Ala Tyr Leu Ser Asp Leu Gly Gly Cys Ile Lys
 115 120 125

Ala Leu Lys Tyr Cys Ala Gly Trp Ala Asp Lys Ile His Gly Gln Thr
 130 135 140

Ile Pro Ser Asp Gly Asp Ile Phe Thr Tyr Thr Arg Arg Glu Pro Ile
 145 150 155 160

Gly Val Cys Gly Gln Ile Ile Pro Trp Asn Phe Pro Met Leu Met Phe
 165 170 175

Ile Trp Lys Ile Gly Pro Ala Leu Ser Cys Gly Asn Thr Val Val Val
 180 185 190

Lys Pro Ala Glu Gln Thr Pro Leu Thr Ala Leu His Leu Ala Ser Leu
 195 200 205

Ile Lys Glu Ala Gly Phe Pro Pro Gly Val Val Asn Ile Val Pro Gly
 210 215 220

Tyr Gly Pro Thr Ala Gly Ala Ala Ile Ser Ser His Met Asp Val Asp
 225 230 235 240

Lys Val Ala Phe Thr Gly Ser Thr Gln Val Gly Lys Leu Ile Lys Glu
 245 250 255

Ala Ala Gly Lys Ser Asn Leu Lys Arg Val Thr Leu Glu Leu Gly Gly
 260 265 270

Lys Ser Pro Cys Ile Val Phe Ala Asp Ala Asp Leu Asp Ile Ala Val
 275 280 285

Glu Phe Ala His His Gly Val Phe Tyr His Gln Gly Gln Cys Cys Val
 290 295 300

Ala Ala Ser Arg Ile Phe Val Glu Glu Ser Val Tyr Asp Glu Phe Val
 305 310 315 320

Lys Arg Ser Val Glu Arg Ala Lys Lys Tyr Val Leu Gly Asn Pro Leu
 325 330 335

Thr Pro Gly Ile Asn Gln Gly Pro Gln Ile Asp Lys Glu Gln His Asp
 340 345 350

Lys Ile Leu Asp Leu Ile Glu Ser Gly Lys Lys Glu Gly Ala Lys Leu
 355 360 365

Glu Cys Gly Gly Gly Arg Trp Gly Asn Lys Gly Phe Phe Val Gln Pro
 370 375 380

Thr Val Phe Ser Asn Val Thr Asp Glu Met Arg Ile Ala Lys Glu Glu
 385 390 395 400

Ile Phe Gly Pro Val Gln Gln Ile Met Lys Phe Lys Ser Val Asp Asp
 405 410 415

Val Ile Lys Arg Ala Asn Asn Thr Thr Tyr Gly Leu Ala Ala Gly Leu
 420 425 430

Phe Thr Lys Asp Leu Asp Lys Ala Ile Thr Val Ser Ser Ala Leu Gln
 435 440 445

Ala Gly Val Val Trp Val Asn Cys Tyr Ile Met Leu Ser Ala Gln Cys
 450 455 460

Pro Phe Gly Gly Phe Lys Met Ser Gly Asn Gly Arg Glu Leu Gly Glu
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His Gly Leu Tyr Glu Tyr Thr Glu Leu Lys Thr Val Ala Met Lys Ile
 485 490 495

Ser Gln Lys Asn Ser
 500

<210> 45

<211> 2116

<212> DNA

<213> Homo sapiens

<400> 45

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<210> 46
 <211> 501
 <212> PRT
 <213> Homo sapiens

<400> 46

Met Ser Ser Ser Gly Thr Pro Asp Leu Pro Val Leu Leu Thr Asp Leu
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Lys Ile Gln Tyr Thr Lys Ile Phe Ile Asn Asn Glu Trp His Asp Ser
 20 25 30

Val Ser Gly Lys Lys Phe Pro Val Phe Asn Pro Ala Thr Glu Glu Glu
 35 40 45

Leu Cys Gln Val Glu Glu Gly Asp Lys Glu Asp Val Asp Lys Ala Val
 50 55 60

Lys Ala Ala Arg Gln Ala Phe Gln Ile Gly Ser Pro Trp Arg Thr Met
 65 70 75 80

Asp Ala Ser Glu Arg Gly Arg Leu Leu Tyr Lys Leu Ala Asp Leu Ile
 85 90 95

Glu Arg Asp Arg Leu Leu Leu Ala Thr Met Glu Ser Met Asn Gly Gly
 100 105 110

Lys Leu Tyr Ser Asn Ala Tyr Leu Asn Asp Leu Ala Gly Cys Ile Lys

115

120

125

Thr Leu Arg Tyr Cys Ala Gly Trp Ala Asp Lys Ile Gln Gly Arg Thr
 130 135 140

Ile Pro Ile Asp Gly Asn Phe Phe Thr Tyr Thr Arg His Glu Pro Ile
 145 150 155 160

Gly Val Cys Gly Gln Ile Ile Pro Trp Asn Phe Pro Leu Val Met Leu
 165 170 175

Ile Trp Lys Ile Gly Pro Ala Leu Ser Cys Gly Asn Thr Val Val Val
 180 185 190

Lys Pro Ala Glu Gln Thr Pro Leu Thr Ala Leu His Val Ala Ser Leu
 195 200 205

Ile Lys Glu Ala Gly Phe Pro Pro Gly Val Val Asn Ile Val Pro Gly
 210 215 220

Tyr Gly Pro Thr Ala Gly Ala Ala Ile Ser Ser His Met Asp Ile Asp
 225 230 235 240

Lys Val Ala Phe Thr Gly Ser Thr Glu Val Gly Lys Leu Ile Lys Glu
 245 250 255

Ala Ala Gly Lys Ser Asn Leu Lys Arg Val Thr Leu Glu Leu Gly Gly

260

265

270

Lys Ser Pro Cys Ile Val Leu Ala Asp Ala Asp Leu Asp Asn Ala Val

275

280

285

Glu Phe Ala His His Gly Val Phe Tyr His Gln Gly Gln Cys Cys Ile

290

295

300

Ala Ala Ser Arg Ile Phe Val Glu Glu Ser Ile Tyr Asp Glu Phe Val

305

310

315

320

Arg Arg Ser Val Glu Arg Ala Lys Lys Tyr Ile Leu Gly Asn Pro Leu

325

330

335

Thr Pro Gly Val Thr Gln Gly Pro Gln Ile Asp Lys Glu Gln Tyr Asp

340

345

350

Lys Ile Leu Asp Leu Ile Glu Ser Gly Lys Lys Glu Gly Ala Lys Leu

355

360

365

Glu Cys Gly Gly Gly Pro Trp Gly Asn Lys Gly Tyr Phe Val Gln Pro

370

375

380

Thr Val Phe Ser Asn Val Thr Asp Glu Met Arg Ile Ala Lys Glu Glu

385

390

395

400

Ile Phe Gly Pro Val Gln Gln Ile Met Lys Phe Lys Ser Leu Asp Asp

405

410

415

Val Ile Lys Arg Ala Asn Asn Thr Phe Tyr Gly Leu Ser Ala Gly Val

420

425

430

Phe Thr Lys Asp Ile Asp Lys Ala Ile Thr Ile Ser Ser Ala Leu Gln

435

440

445

Ala Gly Thr Val Trp Val Asn Cys Tyr Gly Val Val Ser Ala Gln Cys

450

455

460

Pro Phe Gly Gly Phe Lys Met Ser Gly Asn Gly Arg Glu Leu Gly Glu

465

470

475

480

Tyr Gly Phe His Glu Tyr Thr Glu Val Lys Thr Val Thr Val Lys Ile

485

490

495

Ser Gln Lys Asn Ser

500